

Remarks

Reconsideration of this Application is respectfully requested.

Claims 1-10, 12-14, 19-28, 30-40, 42-45, and 49-61 are pending in the application, with 1, 21, 31, 51, 52, 53, 55, and 57 being the independent claims.

Interview Summary

Applicants thank the Examiner for the telephonic interview with Applicants' representatives, Mr. Donald Featherstone and the undersigned, on April 20, 2004. Applicants agree with the statements in the Interview Summary mailed on April 23, 2004, and accordingly have filed an RCE with new arguments. Pursuant to the Examiner's agreement to conduct an interview before the next office action, Applicants request that the Examiner immediately contact the undersigned before considering the following remarks to schedule a personal interview with the Examiner.

Rejections under 35 U.S.C. § 102

Claims 1-10, 12-14, 19-28, 30-40, 42-45, and 49-61 stand rejected under 35 U.S.C. 102(e) as being allegedly anticipated by U.S. Pat. No. 6,208,407 issued to Loopstra ("Loopstra"). Applicants respectfully traverse.

According to claim 1, "the calibration sensor [in the claimed embodiment] has a higher focus accuracy than each of the secondary control sensor and the primary control sensor." As explained in the specification, this is because there is not enough space at the exposing area to attach a high focus accuracy sensor near the exposure station, which

takes up significant space. Thus, the calibration sensor is a higher focus accuracy sensor that works with the lower focus accuracy secondary control sensor to calibrate the lower focus accuracy primary control sensor.

Loopstra's teachings are contrary to the different sensor focus accuracies recited in claim 1. Loopstra states that using interferometers as optical sensors is preferred because optical sensors are "very accurate and reliable." (*See*, Loopstra, col. 5, lines 26-42.) Further, the sensors used in Loopstra are the same sensors used for determining the stepping distance, so they necessarily must be highly accurate. (*See*, col. 16, lines 4-13). Thus, Loopstra does not teach or suggest, among other things, using a "calibration sensor [having] a higher focus accuracy than each of the secondary control sensor and the primary control sensor" as claimed in claim 1. Reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2, 8-10, 12-14, and 19-20 all depend from claim 1. Applicants respectfully submit that claims 2, 8-10, 12-14, and 19-20 are thus patentable over Loopstra for at least the reasons discussed above with respect to claim 1. Reconsideration and withdrawal of claims 2, 8-10, 12-14, and 19-20 are respectfully requested.

Turning to claim 3, it recites, "the first measurement corresponds to an output that the secondary control sensor should produce when the secondary control sensor is at the proper focus distance relative to the specific region." The Examiner stated that the second height sensor in Loopstra corresponds to the claimed secondary control sensor. In Loopstra, contrary to the Examiner's assertion (see, Office Action, page 3), the second

height sensor is not located at the proper focus distance. The second height sensor in Loopstra is instead located laterally relative to the substrate holder, and is not located above the substrate where the focal plane of the specific region would be. Thus, the distance between the second height sensor and the substrate holder in Loopstra is not the focus distance and will actually change as the substrate holder is stepped through the system. Further, since the second height sensor in Loopstra is positioned laterally, the distance between it and the substrate holder is not related to the specific region being measured. Therefore, Loopstra neither teaches nor suggests, among other things, a method wherein the secondary control sensor is at the proper focus distance relative to the specific region. For at least these reasons and the reasons discussed with respect to claim 1, from which claim 3 depends, reconsideration and withdrawal of the rejection of claim 3 is respectfully requested.

Claims 4 and 5 depend from claim 3. Applicants respectfully submit that claims 4 and 5 are patentable over Loopstra for at least the reasons discussed above with respect to claim 3. Reconsideration and withdrawal of the rejections of claims 4 and 5 are respectfully requested.

Turning to claim 6, it recites, "the first measurement relates to a distance D1 between the secondary control sensor and the specific region," and "the second measurement relates to a distance D2 between the primary control sensor and the specific region." As stated above, the height sensors in Loopstra are positioned laterally relative to the substrate and substrate holder. The Loopstra height sensors are used to measure the height of the substrate holder relative to the exposure station. They do not measure the distance between themselves and the substrate holder, which would be a lateral

distance unrelated to the height of the substrate holder. Thus, the measurements produced by the Loopstra sensors do not relate to a distance between the sensors and the specific region on the substrate, as featured in claim 6. For at least these reasons and the reasons discussed above with respect to claim 1, from which claim 6 depends, reconsideration and withdrawal of the rejection of claim 6 is respectfully requested.

Claim 7 depends from claim 6. Applicants respectfully submit that claim 7 is patentable over Loopstra for at least the reasons discussed above with respect to claim 6. Reconsideration and withdrawal of the rejection of claim 7 is respectfully requested.

Claim 21 claims a method using a first type and second type of sensors, "wherein the first type of sensor has a higher focus accuracy than the second type of sensor." For at least the same reasons discussed above with respect to claim 1, Loopstra does not teach or suggest, among other things, using two different types of sensors where the first type of sensor has a higher focus accuracy than the second type of sensor. Reconsideration and withdrawal of the rejection of claim 21 is respectfully requested.

Claims 22-28 and 30 depend from claim 21. Applicants respectfully submit that claims 22-28 and 30 are thus patentable for at least the reasons discussed with respect to claim 21. Reconsideration and withdrawal of the rejections of claims 22-28 and 30 are respectfully requested.

Each of claims 31, 51, 52, 54, 55, and 57 recite a system "wherein the calibration sensor has a higher focus accuracy than each of the secondary and primary control sensors." For at least the reasons discussed with respect to claim 1, Loopstra does not

teach or suggest such a feature. Reconsideration and withdrawal of the rejections of claims 31, 51, 52, 54, 55 and 57 are thus respectfully requested.

Claims 32-40, 42-45, 49-50, 53, and 56 depend from one of claims 31, 51, 52, 54, 55, and 57. Applicants respectfully submit that claims 32-40, 42-45, 49-50, 53, and 56 are thus patentable for at least the reasons discussed with respect to claims 31, 51, 52, 54, 55, and 57. Reconsideration and withdrawal of the rejections of claims 32-40, 42-45, 49-50, 53, and 56 are respectfully requested.

Claim 58 comprises "storing calibration information generated using the first and second measurements," where the second measurement was generated by a control sensor, and, "for a subsequent corresponding region, measuring the focus distance using the control sensor and correcting the measurement using the stored calibration information." Thus, the control sensor may be used to determine the focus distance measurement without the use of the calibration sensor. According to Loopstra, however, the second height measurement of Loopstra is "performed simultaneously with, and as many times as, the height measurement of the substrate." Loopstra, therefore, does not teach or suggest, among other things, correcting the initial calibration measurement using only one sensor as claimed in claim 58. For at least this reason, reconsideration and withdrawal of the rejection of claim 58 is respectfully requested.

Claims 59-61 depend from claim 58. Applicants submit that claims 59-61 are thus patentable for at least the reasons discussed above with respect to claim 58. Reconsideration and withdrawal of the rejections of claims 59-61 are respectfully requested.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all currently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,

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Date: May 19, 2004

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